



# **I-Corps from the Trenches**

## **Conversations with I-Corps Alum**

October 26, 2017

**Christie Canaria**  
**Program Director**

National Cancer Institute SBIR Development Center



# Q&A

**[sbir.cancer.gov/icorps](https://sbir.cancer.gov/icorps)**

**Submit your questions through the Q&A chat box**

Please submit your questions via the chat box. We will be answering your questions throughout the webinar, with additional time dedicated at the end of the session.



Christie Canaria  
NCI/NIH I-Corps



Edmund Pendleton  
Lead Instructor



Michael Schultz  
CSO, Viewpoint Molecular Targeting

# NSF National Innovation Network

- 8 I-Corps™ Nodes
- > 50 I-Corps™ Sites
- I-Corps™ at NIH instructors come from nodes
  - Trained with I-Corps curriculum



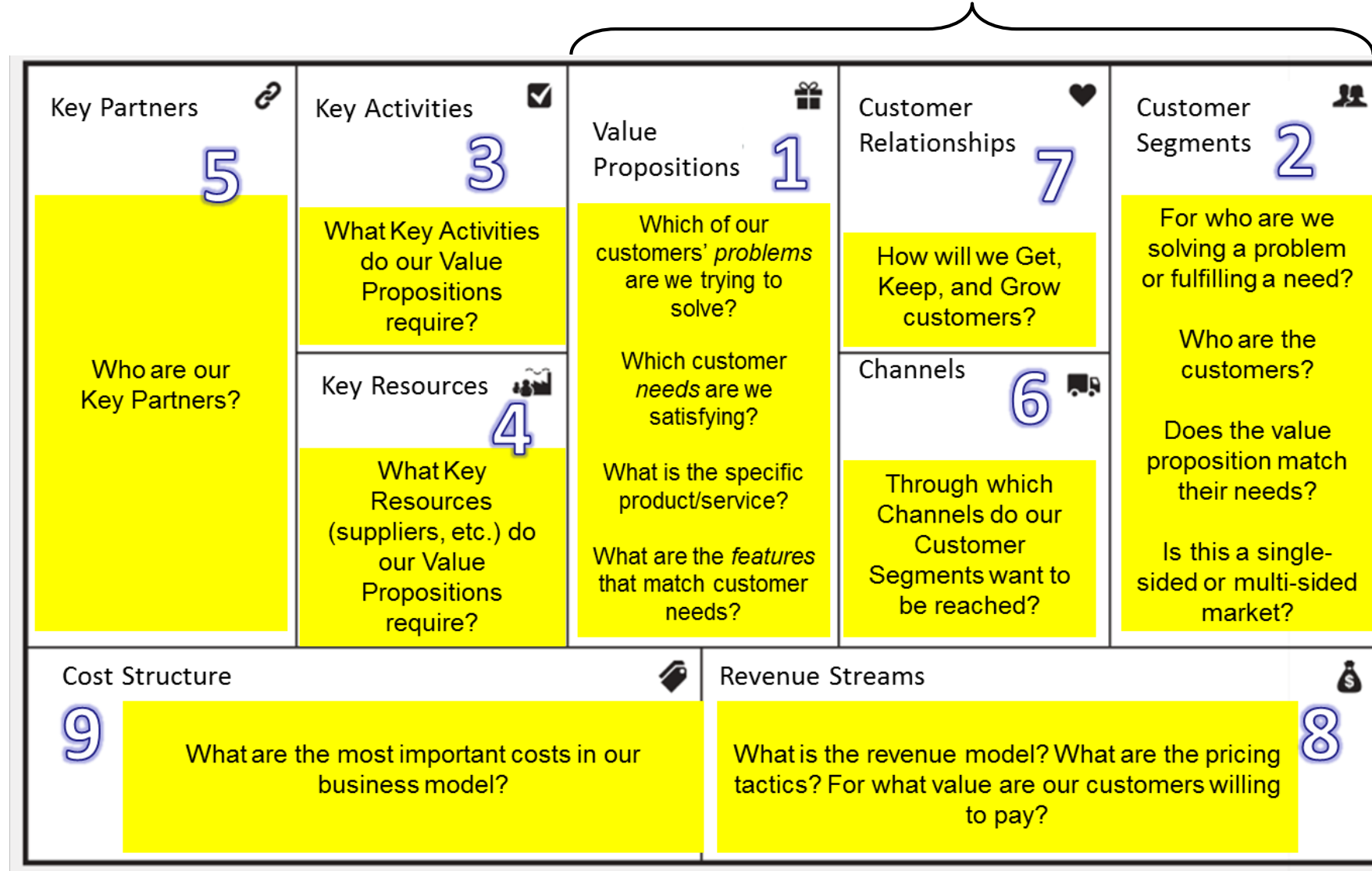
# I-Corps™ Training Program

## Program Description

- Intensive ***Entrepreneurial Immersion*** course aimed at providing teams with skills and strategies to reduce commercialization risk
- Curriculum emphasizes ***Reaching out to Customers*** to test hypotheses about the need and market for the technology being developed.
- Each team is expected to conduct over 100 interviews over 8 weeks.
- Format is focused on ***Experiential Learning***

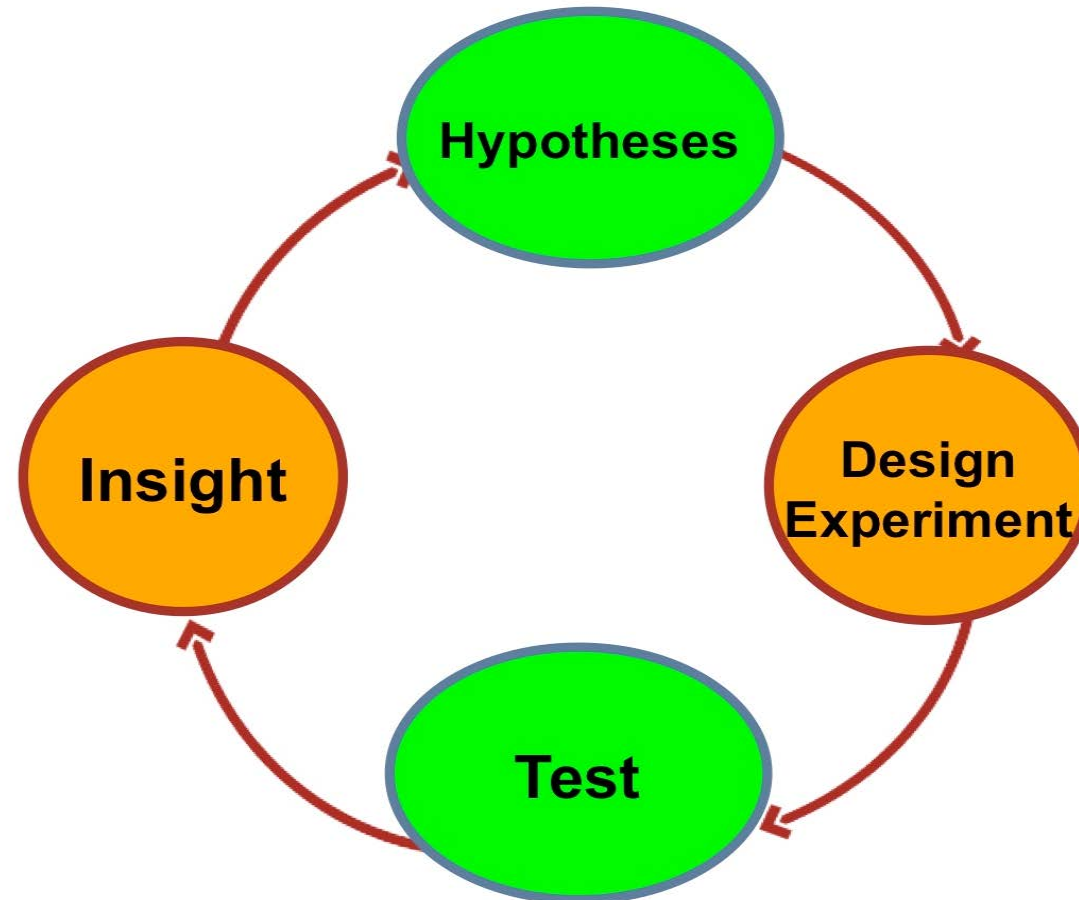
# Business Model Canvas

“ Product-Market Fit ”





## *Hypotheses Testing and Insight...*



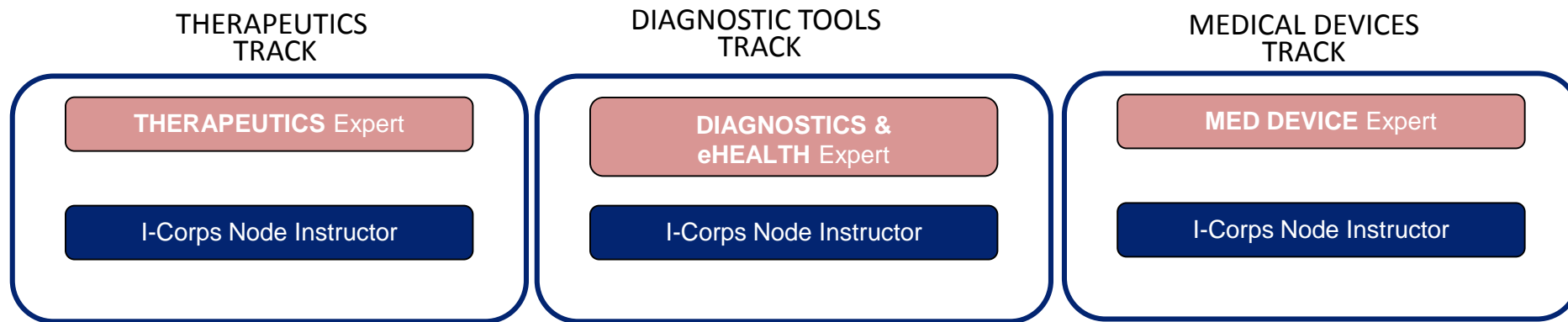
# Focus on Learning

Customer development is NOT sales!

- Teams are not pitching their product or technology
- Teams are **listening** to potential customers and other stakeholders and **learning** about:
  - What customers want and need
  - Pain points in their customers' daily routines
  - Features of a technology that would provide value



# I-Corps™ at NIH - Program Format



## COURSE FORMAT

- 3-Day Kick-off Event
- 6 Weekly web classes
- 2-Day Lessons Learned

## TEAM STRUCTURE

- C-level executive  
(decision making authority)
- PD/PI  
(strong technical background)
- Industry Expert  
(rolodex & experience)

## LIFE SCIENCE TRACKS

- Therapeutics
- Diagnostics/eHealth
- Medical Devices
- Teams are distributed among track “rooms”

## TEACHING TEAM

- I-Corps Node Instructors
- Industry Domain Experts
- Curriculum tailored to life sciences



### 5 cohorts to date

- 100 teams conducted 10,000+ customer discovery interviews
- 90% found the program “very good” or “excellent”
- 90% would recommend I-Corps™ at NIH to other companies

*“We clarified the value propositions, who our target customers would be, revenue streams, customer relationships...”*

*“After going through I-Corps we understand we have to focus on a small subset [of customers] and prioritize segments based on their value propositions.”*

# I-Corps™ at NIH

SBIR/STTR Phase II grant applications have two components

**1.The Research Strategy**

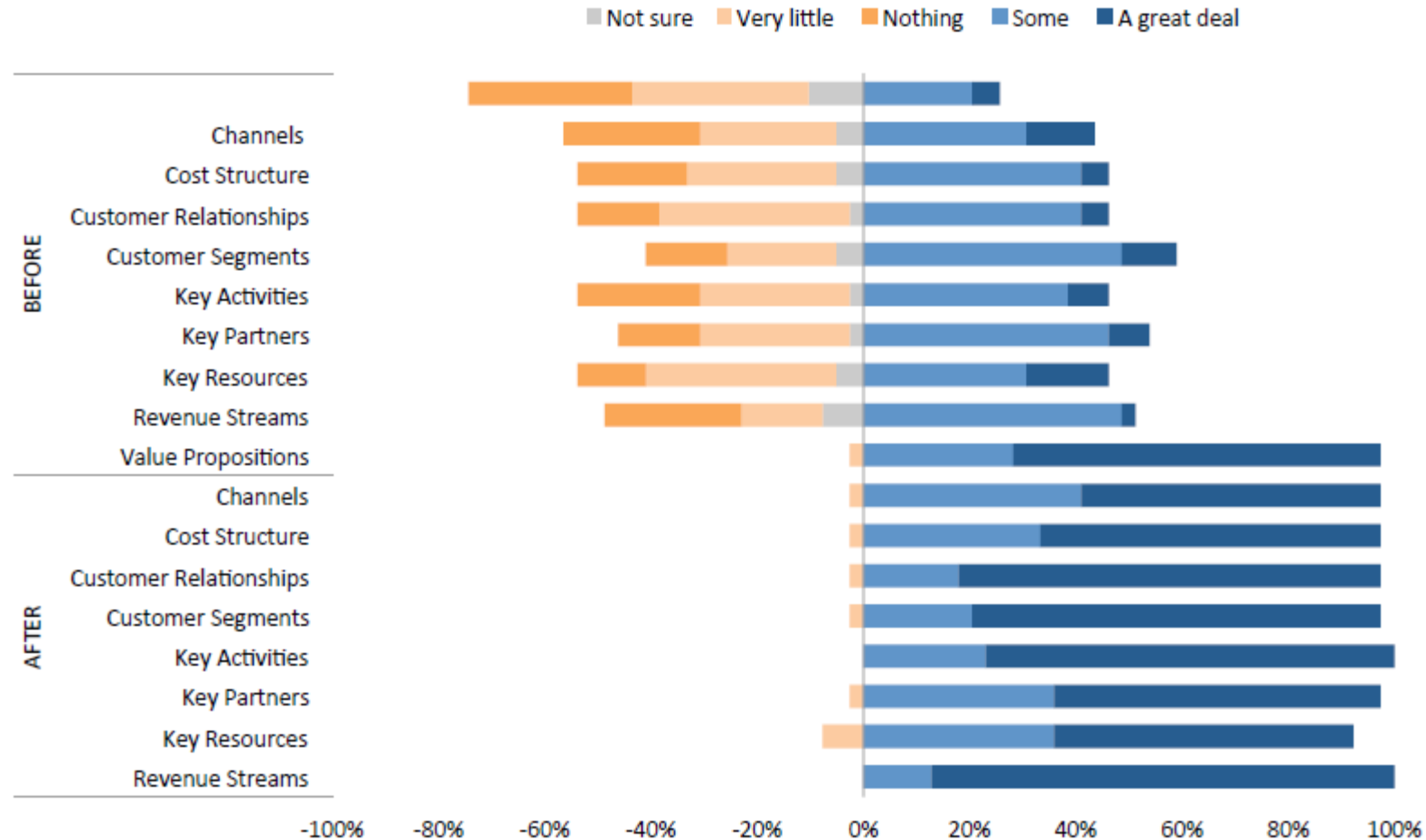
**2.The Commercialization Plan**

- Phase II applicants often focus on #1
- The strongest Phase II applications focus on both

Important goal of I-Corps™ at NIH is to inform the Commercialization Plan

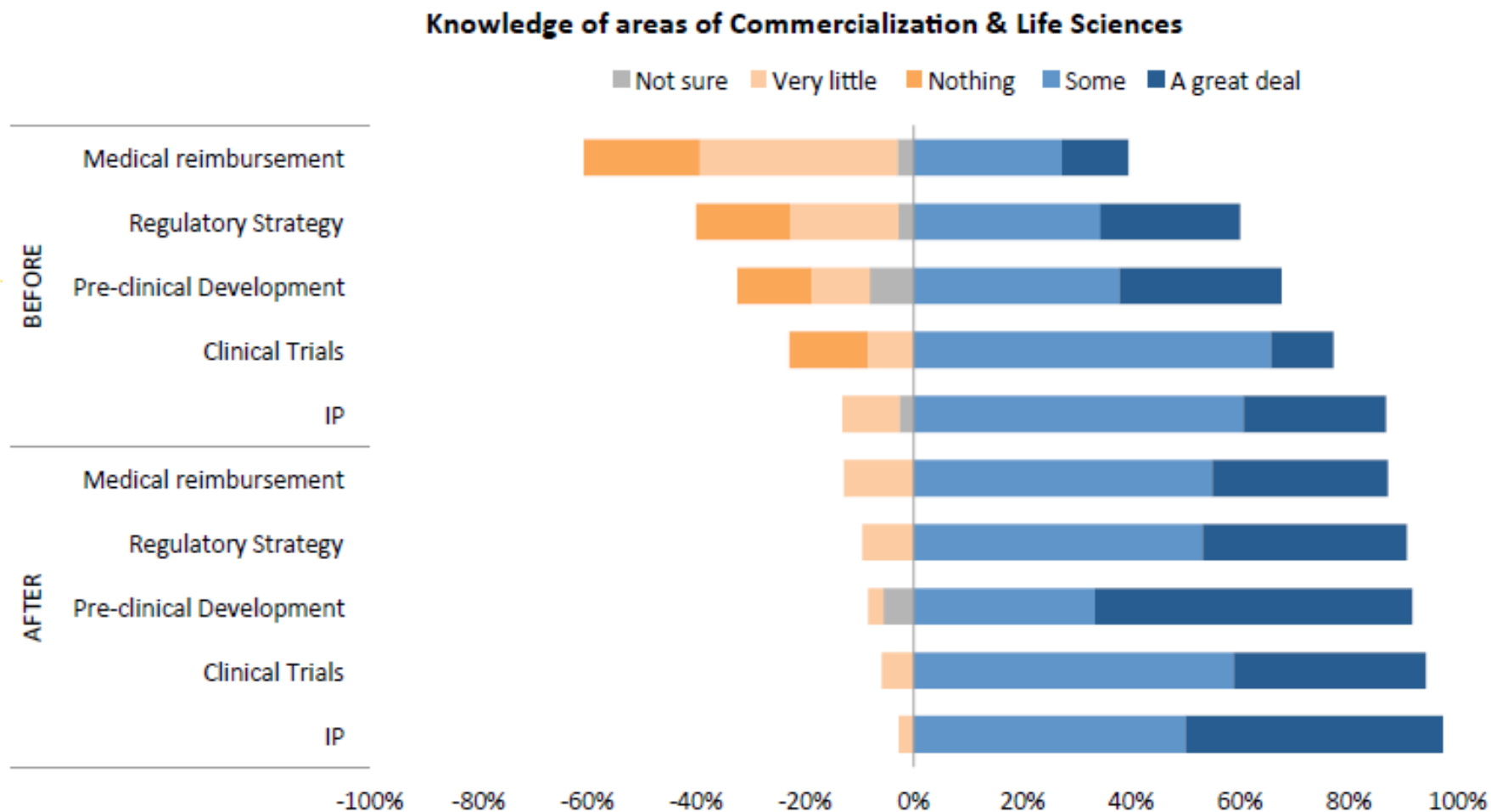
# Business Model Canvas Knowledge

Spring 2016 Cohort



# Life Science Commercialization Knowledge

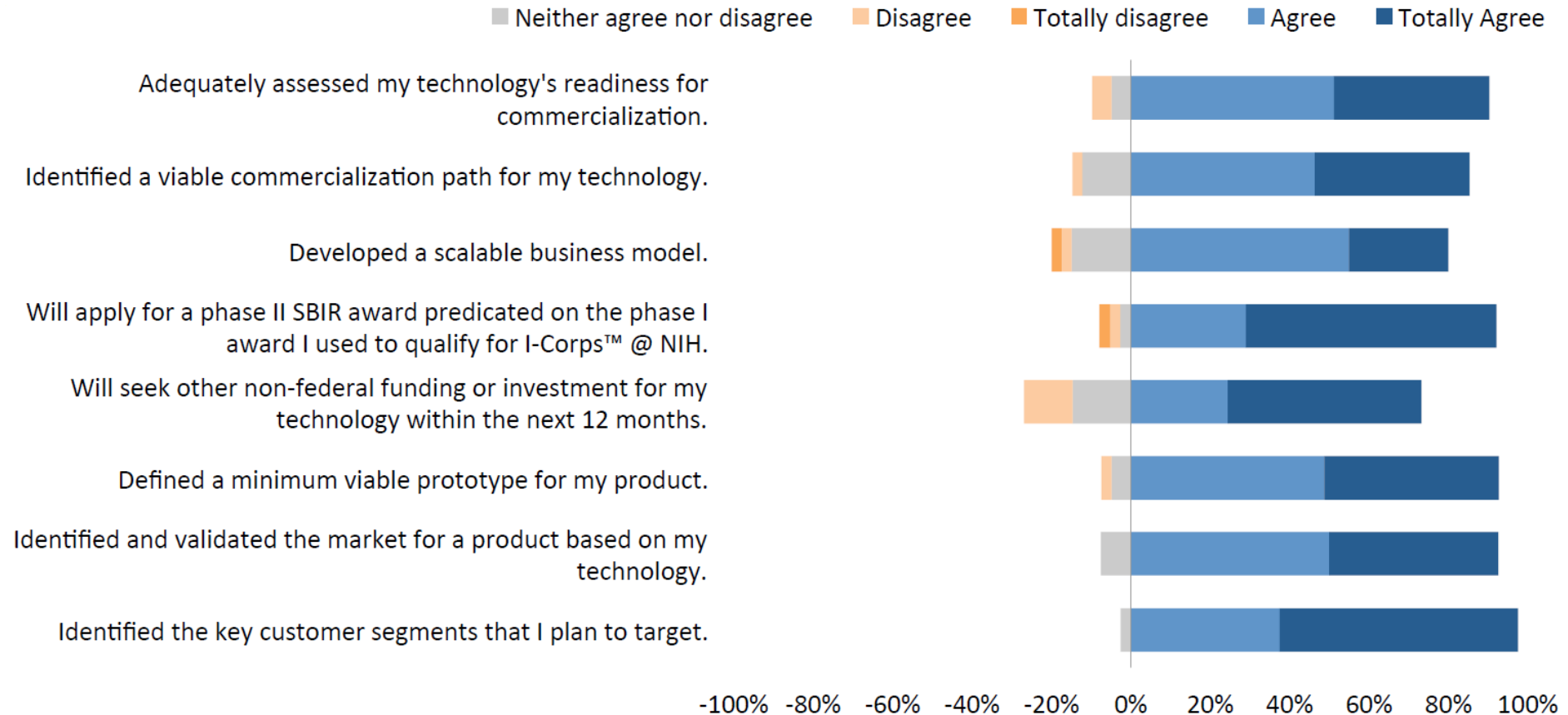
Spring 2016 Cohort



# Status of Technology and Future Plans

Spring 2016 Cohort

## Company Status







## 16 Participating ICs in 2018

- National Cancer Institute (NCI)
- National Human Genome Research Institute (NHGRI)
- National Institute on Aging (NIA)
- National Institute on Alcohol Abuse and Alcoholism (NIAAA)
- National Institute of Allergy and Infectious Diseases (NIAID)
- Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
- National Institute on Deafness and Other Communication Disorders (NIDCD)
- National Institute of Dental and Craniofacial Research (NIDCR)
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
- National Institute on Drug Abuse (NIDA)
- National Institute of Environmental Health Sciences (NIEHS)
- National Institute of Mental Health (NIMH)
- National Institute of Neurological Disorders and Stroke (NINDS)
- National Center for Advancing Translational Sciences (NCATS)
- National Center for Emerging Zoonotic and Infectious Diseases (NCEZID/CDC)
- National Institute for Occupational Safety and Health (NIOSH/CDC)

# Apply to I-Corps using ASSIST

with these instructions may be delayed or not accepted for review.

There are several options to submit your application to the agency through Grants.gov. You can use the ASSIST system to prepare, submit and track your application online. You can download an application package from Grants.gov, complete the forms offline, submit the completed forms to Grants.gov and track your application in eRA Commons. Or, you can use other institutional system-to-system solutions to prepare and submit your application to Grants.gov and track your application in eRA Commons. [Learn more.](#)

**Apply Online Using ASSIST**

**Apply Using Downloadable Forms**

Problems accessing or using ASSIST should be directed to the [eRA Service Desk](#).

Problems downloading forms should be directed to [Grants.gov Customer Support](#).

## Table of Contents

[Part 1. Overview Information](#)

[Part 2. Full Text of the Announcement](#)

[Section I. Funding Opportunity Description](#)

[Section II. Award Information](#)

[Section III. Eligibility Information](#)

[Section IV. Application and Submission Information](#)

[Section V. Application Review Information](#)

[Section VI. Award Administration Information](#)

[Section VII. Agency Contacts](#)

[Section VIII. Other Information](#)

## Part 2. Full Text of Announcement

### Section I. Funding Opportunity Description

#### Background

America's prosperity has originated in part from the ability to capitalize economically on ground-breaking discoveries from science and engineering research. Simultaneously, a knowledgeable, creative U.S. workforce has maintained the country's global leadership in critical areas of technology. These important discoveries and capable workforce resulted from substantial, sustained investment in science and engineering. A strong capacity for leveraging fundamental scientific discoveries into powerful engines of innovation is essential to maintain our competitive edge in the future.



**PA-18-314 I-Corps at NIH Administrative Supplement**  
**\$50,000 budget cap**

Application Due Date	December 18, 2017
Phone Interview (estimated)	January 29, 2018
Notice of Award (estimated)	February 2018
Kick-off/Close-out Venue	TBD
Course Kick-off	April 9-12, 2018 (Monday-Thursday)
Web-Ex Courses (1-5PM ET)	Wednesdays Apr 18 Apr 25 May 2 May 9 May 16 May 23
Course Close-out/ Lessons Learned	May 31 – Jun 1, 2018
Cohort Size	24 teams

<https://grants.nih.gov/grants/guide/pa-files/PA-18-314.html>

**Next Application Deadline: December 18, 2017**

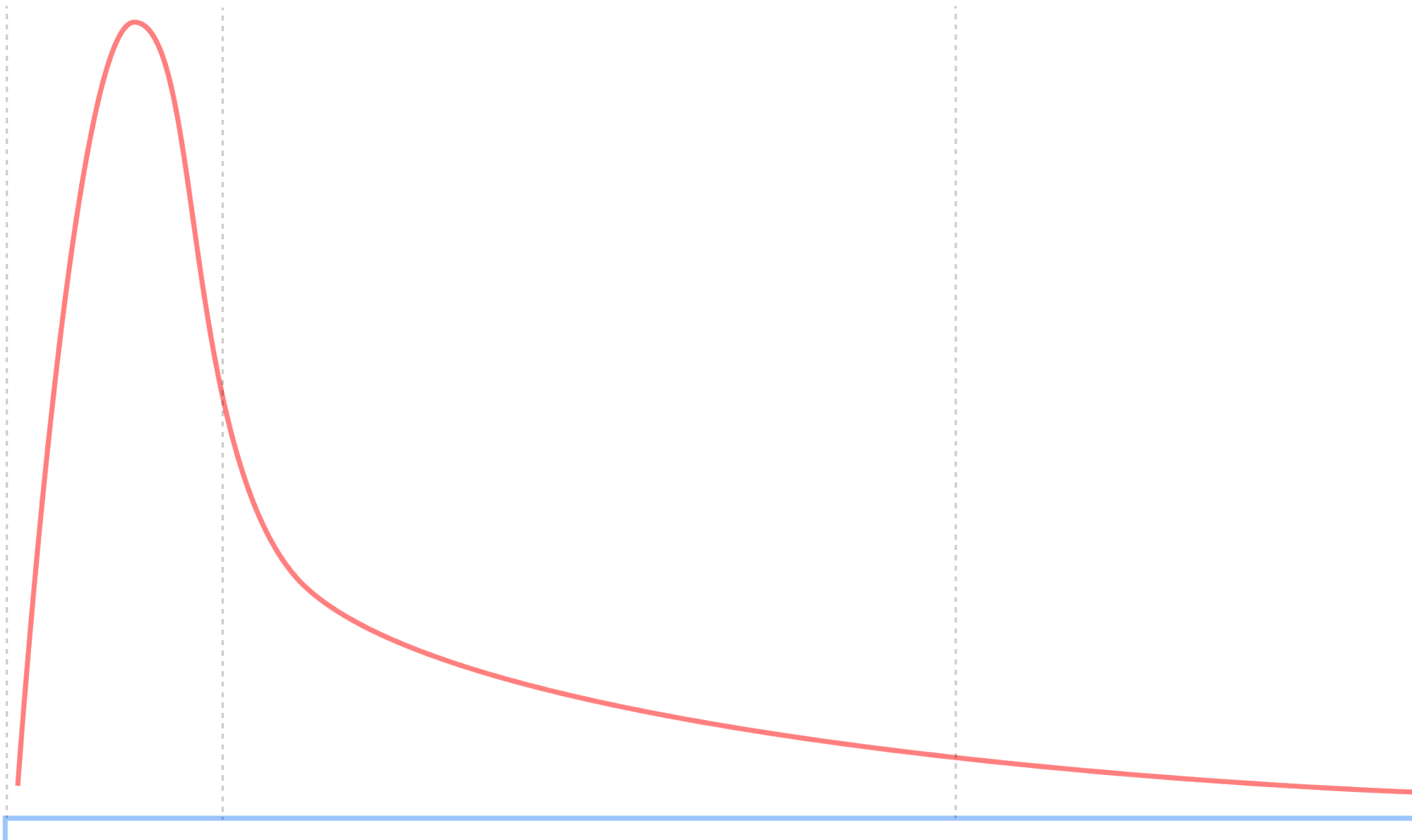
**Why *I-Corps***

**Strikeouts**

**Base Hits**

**Home Runs**

**Frequency**



**Outcome (ROI)**

More startups fail from a  
*lack of customers*  
than from product failure



More startups fail from a

*lack of customers*

than from product failure

# TOP 10

## STARTUP MISTAKES





# #1

Building something  
nobody wants

Score: 300

# #2

Hiring Poorly

Score: 153

18% of Tot.

# #3

Lack of Focus

Score: 112

13% of Tot.

Our *Goal*

Improve *Odds*

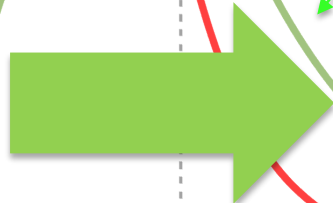
Strikeouts

Base Hits

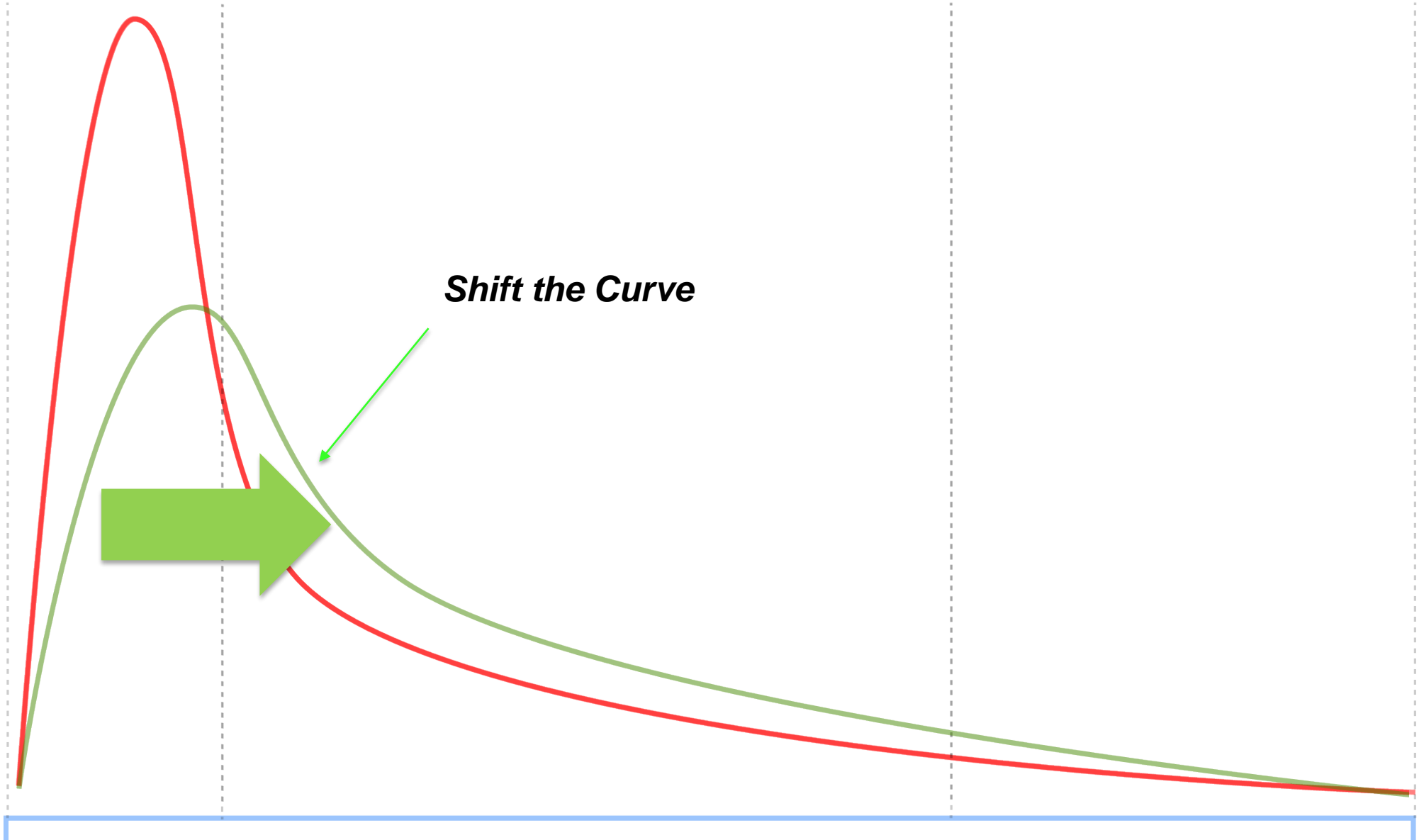
Home Runs

Frequency

*Shift the Curve*



Outcome (ROI)





**ALSO**

**Innovation**

***Culture Change***

**Invention**

***Innovation***

**Invention**

***about Technology***

# Innovation

*about Customer  
Needs*

# Solutions Based to *Needs Based*



Get *out* of  
the building!

TEST *and*  
VALIDATE  
assumptions

It's not only about  
*helping patients...*

...or making the  
*science work...*

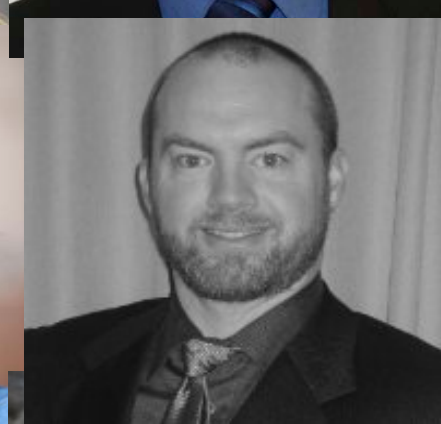
Your goal is to  
*build a business.*



What to expect  
*from instructors?*

Teaching *Team*





Practitioners...

*not Academics*

Coaches...

*not Consultants*

How to think...

*not what to think.*

Respectfully

*Direct*

---

What make a *good*  
*team*?

---

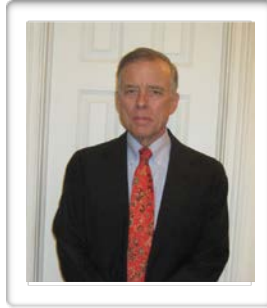




# Viewpoint's ICORPS Story

## Academic Entrepreneurship and True Grit

Michael K Schultz PhD  
Chief Science Officer

**Heyward Coleman MBA, CEO**


C-level

**Michael K Schultz PhD, CSO**


Industry Expert

**Frances L. Johnson MD**


Principal Investigator

**Product:** Targeted radiotherapy for metastatic melanoma.

**Business Thesis:** Initially, medical oncologists caring for metastatic melanoma patients who have failed current therapies will prescribe our product because it will improve survival by 6 months in greater than 20% of patients, with the potential to expand to front line therapy for all metastatic melanoma patients.

	Interview Count			
<b>TOTAL</b>	<b>105</b>	<b>77</b>	<b>2</b>	<b>26</b>

Medical Oncologists (16)  
 Radiation Oncologists (5)  
 Nuclear Medicine/Radiologist Physicians (21)  
 Physician Assistants/Nurses (4)  
 Radio/Nuclear Pharmacist/Chemists (18)  
 Industry Experts/CRO (24)  
 Legal (3)  
 Regulatory (2)  
 Financial (12)



## **Heyward Coleman MS, MBA – Co-Founder, CEO**

- 40+ years' experience as business executive and entrepreneur
- Founder of largest private radiochemistry company in U.S.  
(Environmental Physics, Inc. acquired by General Engineering Laboratories, LLC)
- Corporate spin-off experience at Maritrans GP, Inc.
- MS Nuclear Physics at Duke and MBA at Harvard



## **Michael Schultz PhD – Co-Founder, CSO**

- 15+ years' industry and research experience in radioactivity/nuclear medicine
- Associate Professor of Radiology and Nuclear Medicine at the University of Iowa
- Expert in targeted radiotherapies for cancer
- Business manager experience with Ametek Inc. (ORTEC brand)



## **Frances Johnson MD – Co-Founder, CMO**

- 22 years' experience as Clinical Trials PI
- Co-founded molecular diagnostic company (XDx, Inc. now CareDx, Inc. )
- Adjunct Associate Professor at University of Iowa
- MD University of Washington, Residency UC San Francisco, Faculty Stanford, University of Maryland, and University of Iowa

We didn't know, what we didn't know



**VIEWPOINT**  
molecular targeting

- 2011 \$25,000 Elevator pitch (University of Iowa)
- 2013 \$150,000 Phase I SBIR
- 2015 \$150,000 Phase I SBIR  
\$300,000 Phase I SBIR (contract)  
\$25,000 Iowa Innovation Corporation  
\$100,000 State of Iowa Demo Funds
- 2016 \$300,000 Phase I SBIR
- \$100,000 Wellmark Funds
- 2017 \$50,000 NCI ICORPS Program  
\$2,000,000 Phase II SBIR (contract)

# Goals



- What is ICORPS?
- Who are we?
- Where are we?
- **Is ICORPS right for us?**
- **Are we right for ICORPS?**

# ICORPS

“eye” “core”

An intensive entrepreneurship program that emphasizes customer discovery as the means to energize your business.

# ICORPS

~~“eye” “corpse”~~



**VIEWPOINT**  
molecular targeting

# Who are we?

## Why are we here?



- Great idea
- Start up company
- Next level
- ICORPS might help

“academic entrepreneur”



# Academic Entrepreneurship?

ac·a·dem·ic; akə'demik/  
*adjective*

1. relating to **education** and **scholarship**.
2. not of practical relevance; of only theoretical interest.

*noun*

a **teacher** or **scholar**  
in a college or institute  
of higher education.



# Academic Entrepreneurship?

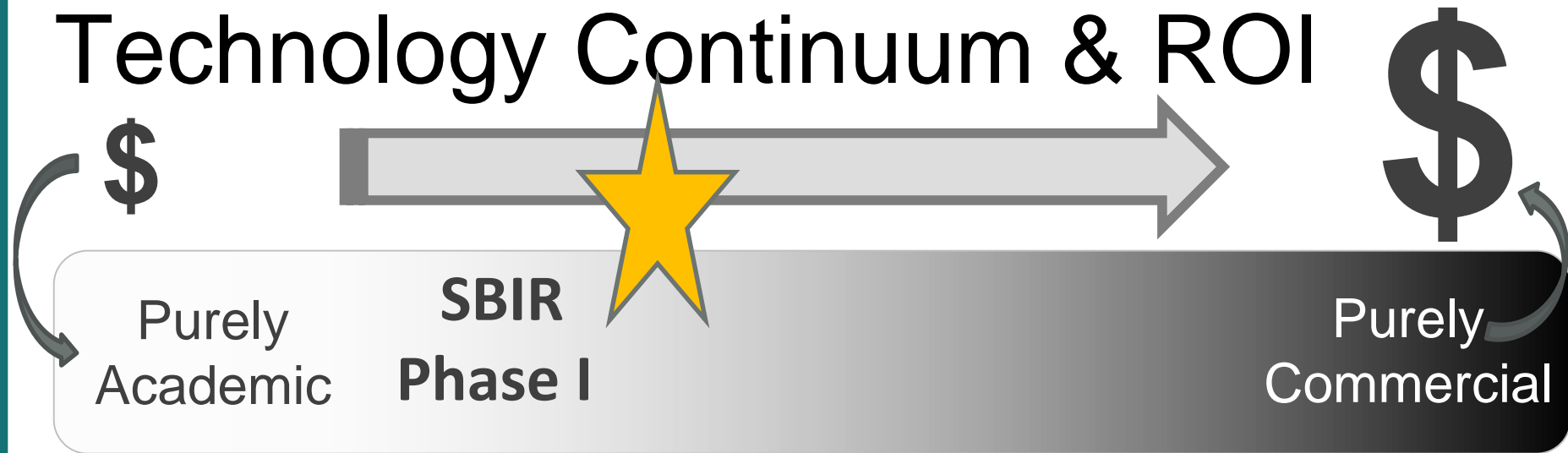
en·tre·pre·neur·ship  
,änrəprə'nər,SHip/  
*noun*



the activity of setting up a business or businesses, taking on financial risks in the hope of profit.



# Technology Continuum & ROI



Academic  
Discovery  
Grants/Papers  
R01/R21



Technology Transfer  
SBIR Phase II  
Equity



**EDGE**  
The R-Rated Superstar  
"ROI"

# Why do most startups fail?



- ☐ The founders fight
- ☐ They can't build their initial spec
- ☐ No one will fund their idea
- ☐ Too few people will buy/use the product



Steve Blank  
Innovation Within

# Why do most startups fail?



- ☒ The founders fight
- ☒ They can't build their initial spec
- ☒ No one will fund their idea
- ☒ Too few people will buy/use the product



Steve Blank  
Innovation Within

Who are we?  
Where are we?



TRUE GRIT





# Are we right for ICORPS?



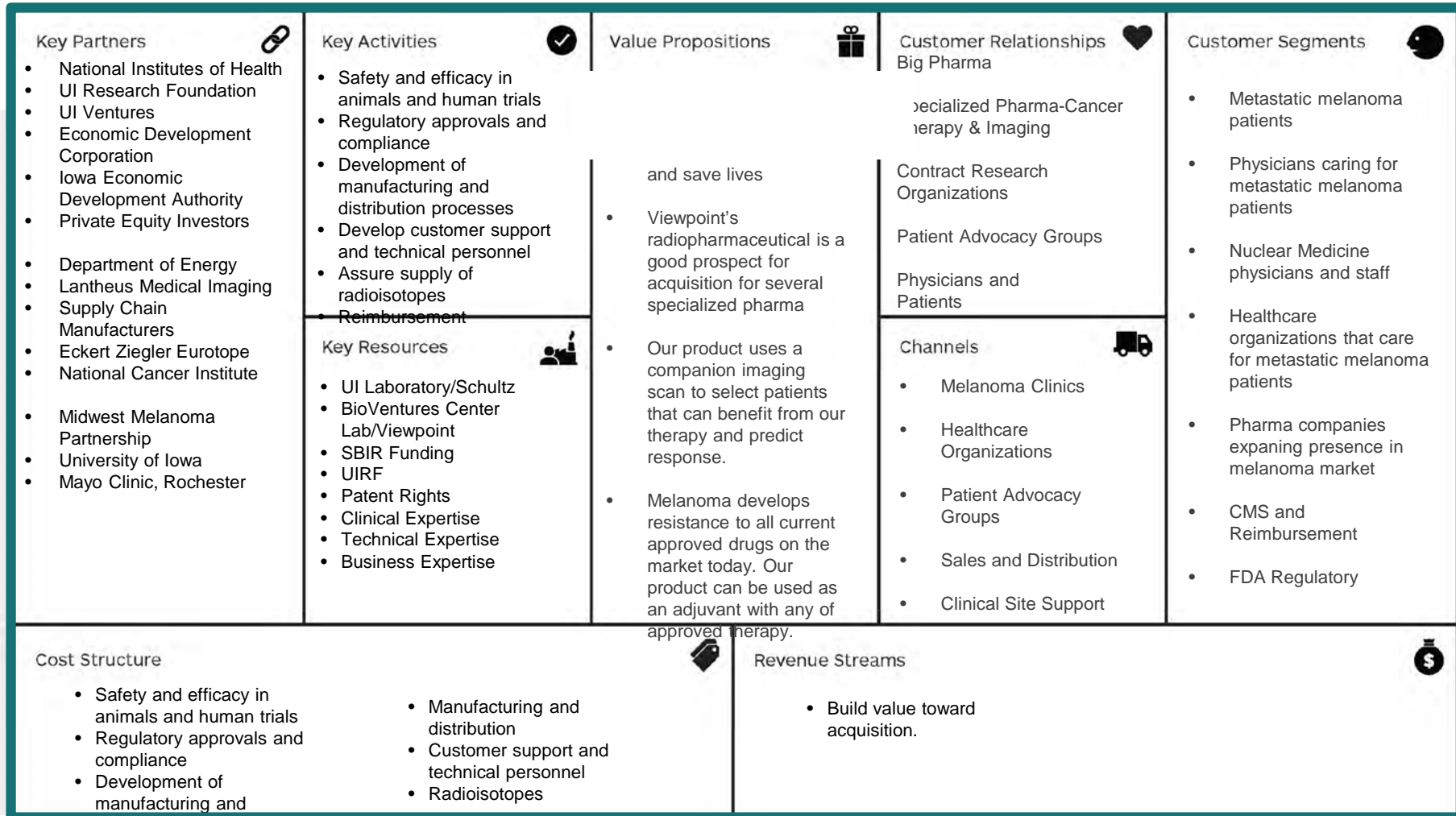
TRUE GRIT

- C-suite executives
- Time to participate
- Wants to contribute big
- Knowledge and skills
- Excited about it



# We didn't know what we didn't know...

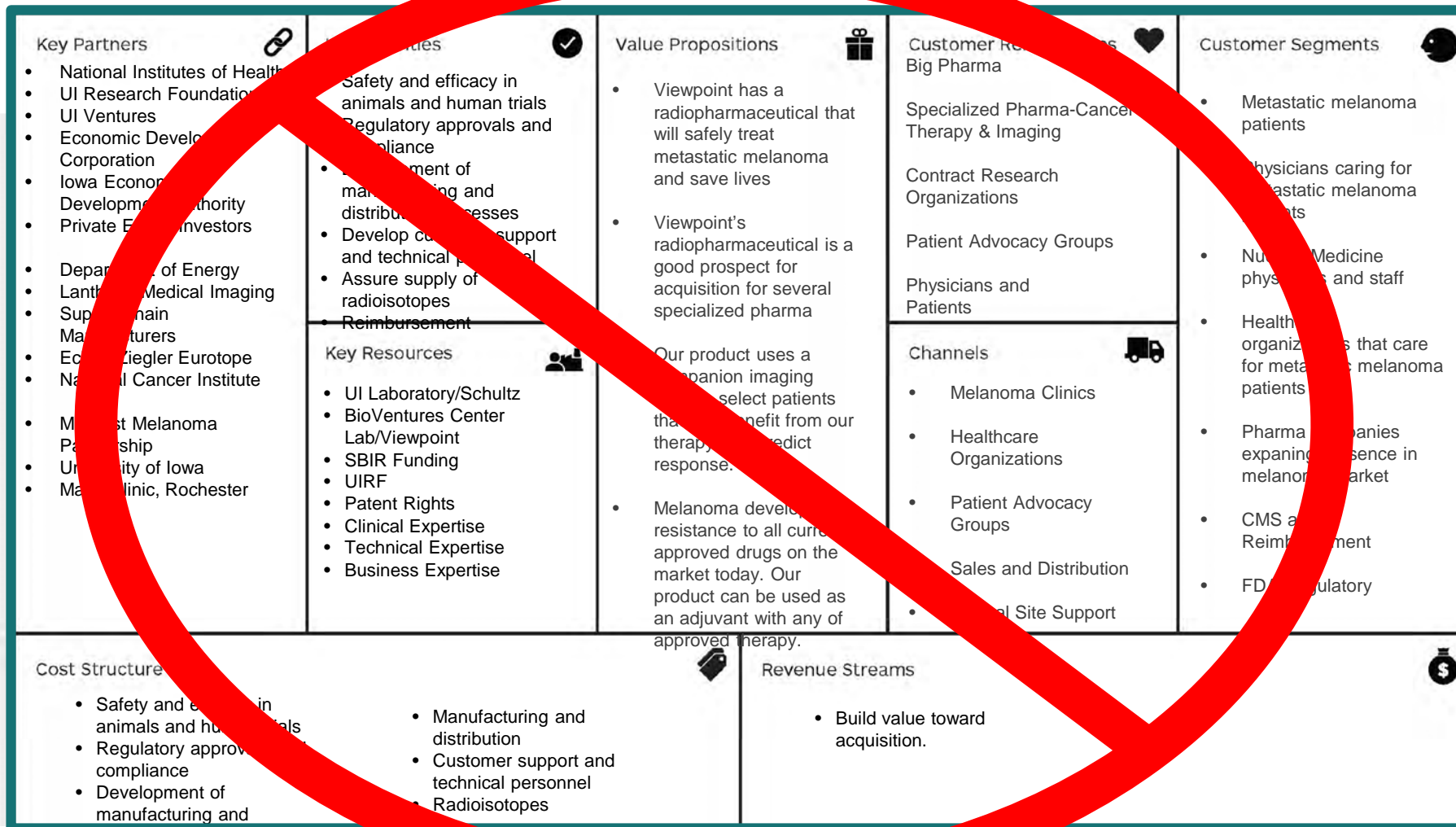
## Business Model Canvas-1



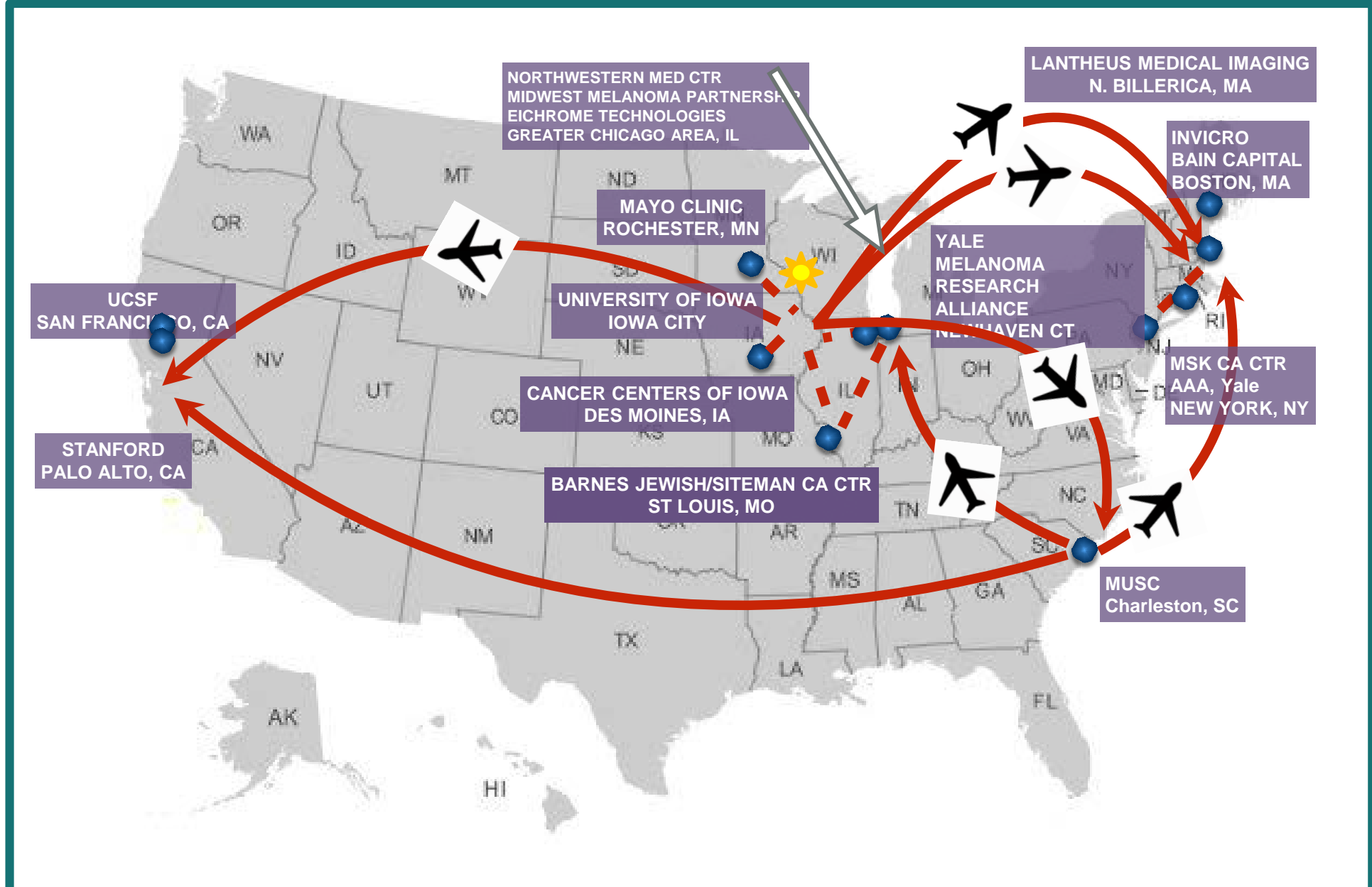


# We didn't know what we didn't know...

## Business Model Canvas-1



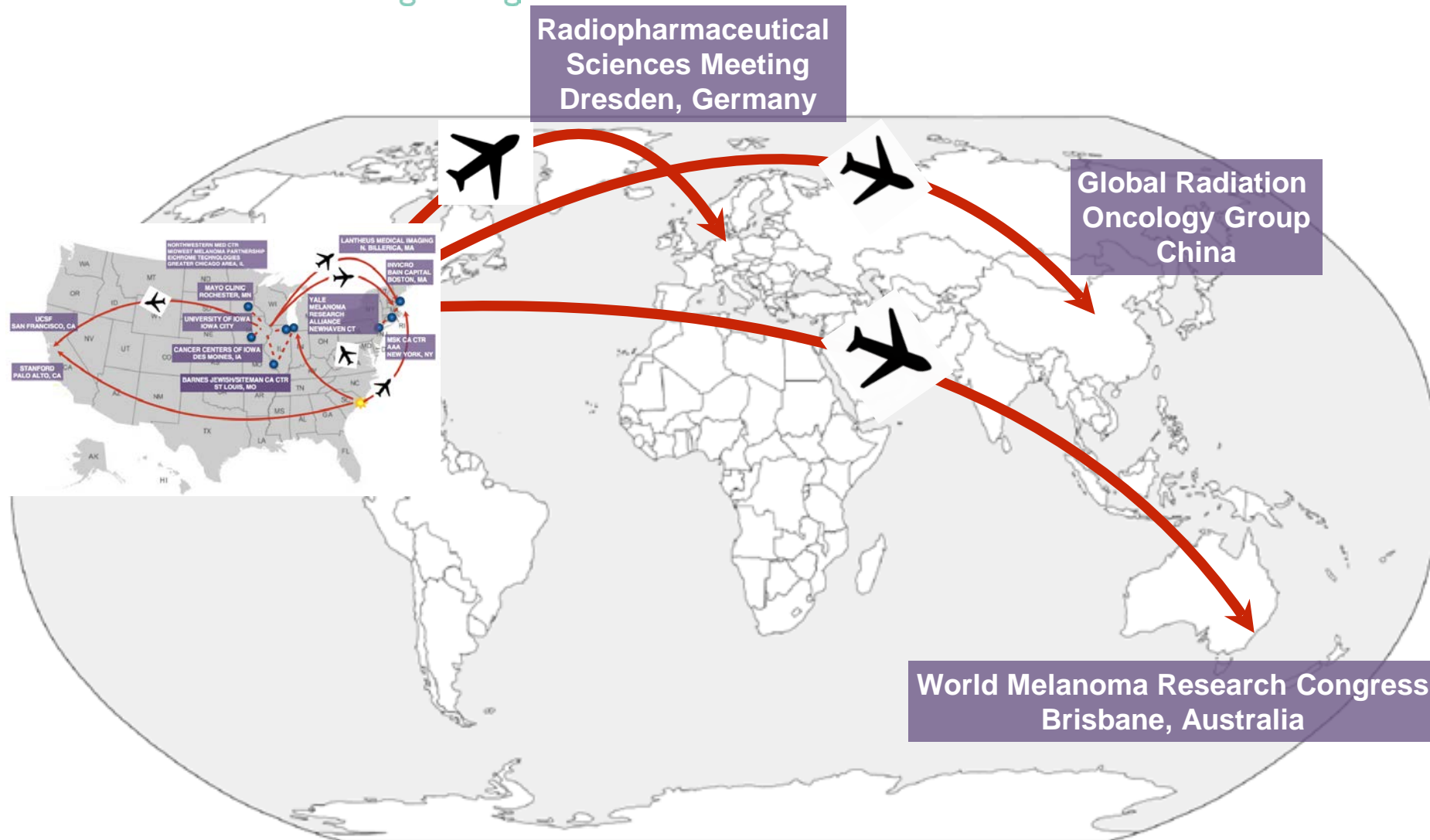
So, here's what we did





**VIEWPOINT**  
molecular targeting

Here's what else we did



Germany; China; Australia

And, here's who we talked to



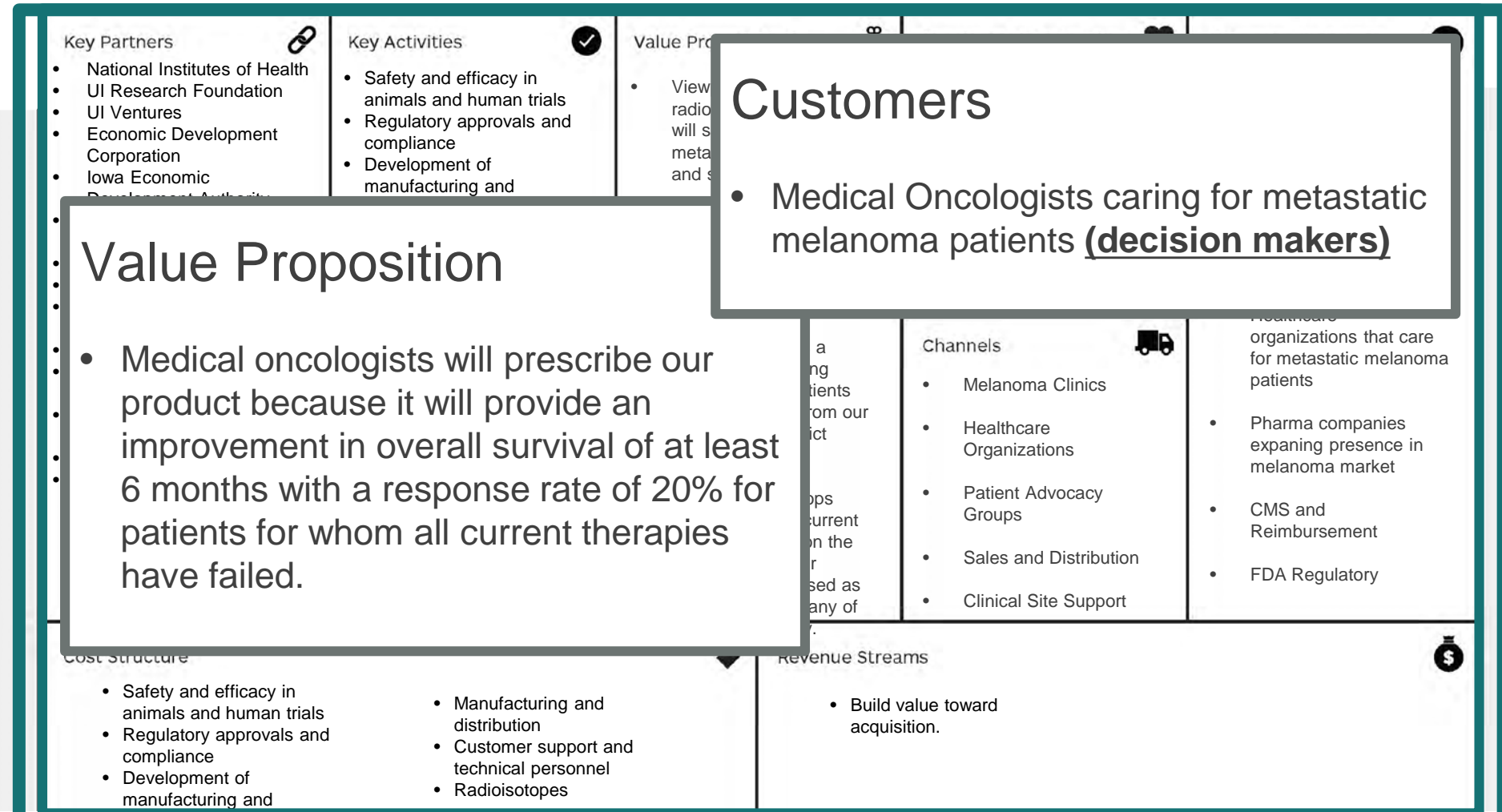


Medical oncologists would prescribe our therapy with an expectation of 6 months increased survival and a 20% response rate (n = 16; **34**) .

Dr. Mohammed Milhem (Founder  
Midwest Melanoma Partnership)  
“6 mo improved survival in 20% of  
patients is exciting...”



## Business Model Canvas - refined



**We thought we had two products;** a therapeutic and a companion diagnostic, but **finally** after  $n = 40$ .



**“Don’t do the diagnostic. It is going to hurt your therapeutic at best!”**

George Segall MD; Director of Nuclear Medicine,  
Stanford University  
Palo Alto Veterans Administration Hospital



**We learned we have one!**

# Is ICORPS right for us?



The end of the beginning...



- TEAM CHEMISTRY
- OPEN MIND
- TIME TO DEVOTE
- START RIGHT NOW



**"Business is NOT the easy part!"**  
Nancy Kamei PhD



# ICORPS is right for us.



- START PLANNING INTERVIEWS NOW
  - REVIEW YOUR PLAN/RESULTS EVERY WEEK
  - CLEAR YOUR CALENDAR NOW
  - BE PREPARED TO BE INTERRUPTED
- 
- Interviews are not selling your product
  - Interviews are not pitching your company
  - Interviews are open ended conversations about your market space

# THANK YOU!



**VIEWPOINT**  
molecular targeting



# Q&A

**[sbir.cancer.gov/icorps](https://sbir.cancer.gov/icorps)**

**Submit your questions through the Q&A chat box**